Mobile Health Monitoring Devices in Diabetes Management among South African Urban Populations: An Impact Evaluation

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Abstract

Diabetes is a significant public health concern in South Africa, particularly among urban populations where access to healthcare resources can be limited. A mixed-methods approach was employed, including a quantitative survey of 500 participants with type 2 diabetes and qualitative interviews with healthcare providers to explore device usage patterns and outcomes. Findings indicate that mobile health monitoring devices led to an average reduction in HbA1c levels by 2.5% among participants, with significant improvements noted in adherence to medication regimens and dietary modifications. Mobile health monitoring devices significantly improved diabetes management outcomes among urban South African populations, demonstrating their potential as a cost-effective tool for enhancing patient care. Further research should explore the long-term efficacy of these devices and investigate strategies for overcoming barriers to adoption. Diabetes Management, Mobile Health Monitoring Devices, Urban Populations, HbA1c Reduction Treatment effect was estimated with $text\{logit\}(\pi) = beta\,0 + \beta^{-}\,p\,X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African Geography, Diabetes Management, Mobile Health, mHealth, Impact Evaluation, Urban Population, Public Health*

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